UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/002,217	11/01/2001	Craig Nemecek	CPPR-CD01207M	1780

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EXAMINER
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ART UNIT	PAPER NUMBER
2123	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/002,217	NEMECEK, CRAIG
	Examiner	Art Unit	
	Jason Proctor	2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>07 June 2007</u>.

2a)☐ This action is **FINAL**.　　2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-20</u> is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-20</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>17 January 2006</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All　b)☐ Some * c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4)☒ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. <u>20070726</u>.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

Claims 1-20 were rejected in office action of 7 March 2007.

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7 June 2007 has been entered.

The 7 June 2007 submission has amended claims 1 and 6-20. Claims 1-20 are pending in this application.

Claims 1-20 are rejected.

Priority

1.   This Application contains a claim for the benefit of priority to U.S. Provisional Application No. 60/243,708 filed 26 October 2000. The provisional application has been reviewed and priority is denied, because the provisional application does not appear to enable the claimed invention as required under 35 U.S.C. Section 112, first paragraph. See 35 U.S.C. § 119(e)(1).

For example, the provisional application contains a set of 'powerpoint-style' drawings and datasheets describing desired features for a microcontroller or a 'system-on-chip,' but this material does not appear to contain either the text description or the drawings found in the

Application. In particular, no part of the provisional application appears to disclose the method

steps shown in the Application at Fig. 7.

Claim Objections

2.   Claims 1-5 are objected to because of the following informalities: Claim 1 recites "a

virtual microcontroller" in lines 2-3, and "a virtual microcontroller" in line 5, creating the

appearance of an invention comprising a first and second virtual microcontroller. Later

references to "said virtual microcontroller" in line 8, for example, are ambiguous. It is the

Examiner's understanding that the inventive concept disclosed by the application focuses on a

single virtual microcontroller. Appropriate correction or clarification is required.

3.   Claims 1-20 are objected to because of the following informalities: The claim language

appears to confuse the term "I/O read data" and "I/O read data *instruction*". For example, claim

1 recites "wherein said I/O read data is followed by a conditional jump instruction," however the

disclosure of the invention is directed to an I/O read *instruction* (or "I/O read") followed by a

conditional jump instruction that depends on the result of the I/O read (see FIG. 8; specification

page 26, lines 17-24; etc.). Appropriate correction or clarification is required.

4.   Claims 1-20 are objected to because of the following informalities: The independent

claims previously made clear that the virtual microcontroller and microcontroller generally

execute the same instructions in lockstep using the same clocking signals, except when

performing the claimed steps. This claim language has been moved to the end of the

independent claims to a location which appears to suggest that the "same clocking signal" is used

only after it is determined whether to execute the instruction at the next consecutive address or at

the jump address. Clarification is requested regarding this intended scope of this feature of the invention, specifically guidance regarding at what times is the invention limited to executing instructions using the same clock signals between the two devices.

Response to Arguments – 35 USC § 112

5.   The previous rejection of claims 1-20 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement is withdrawn in response to the amendments to the claims. However, the amendments necessitate new grounds of rejection.

6.   The previous rejection of claims 1-20 under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement is withdrawn in response to the amendments to the claims.

7.   The previous rejection of claims 1-20 under 35 U.S.C. § 112, second paragraph, as being vague and indefinite is withdrawn in response to the amendments to the claims. However, the amendments necessitate new grounds of rejection.

8.   The previous rejection of claims 1-20 under 35 U.S.C. § 112, second paragraph, as being incomplete for omitting essential steps is withdrawn in response to the amendments to the claims.

9.   The previous rejection of claims 6-20 under 35 U.S.C. § 112, second paragraph, as being

indefinite due to a conflict in the language of the preambles is withdrawn in response to the

amendments to the claims.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. § 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10.   Claims 1-20 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with

the written description requirement.   The claim(s) contains subject matter which was not

described in the specification in such a way as to reasonably convey to one skilled in the relevant

art that the inventor(s), at the time the application was filed, had possession of the claimed

invention. Independent claims 1, 6, and 14 all recite language which describes a microcontroller

(or device under test in claim 14) sending a conditional jump instruction to a virtual

microcontroller (or virtual processor in claim 14). This functionality is not described by the

specification. The disclosure clearly conveys a different invention, where a conditional jump

instruction is not sent from one device to the other (specification, page 27, lines 13-27 and FIG.

8).

The following is a quotation of the second paragraph of 35 U.S.C. § 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11.   Claims 1-20 are rejected under 35 U.S.C. § 112, second paragraph, as failing to set forth

the subject matter which applicant(s) regard as their invention. Evidence that claims 1-20 fail(s)

to correspond in scope with that which applicant(s) regard as the invention can be found in the

reply filed on 7 June 2007. In that paper, applicant has stated *"Applicant wishes to clarify that*

the conditional jump instruction is not sent to the virtual microcontroller" (page 12), and this

statement indicates that the invention is different from what is defined in the claim(s) because

independent claim 1 recites *"a microcontroller, wherein said microcontroller sends I/O read*

data to a virtual microcontroller, and wherein said I/O read data is followed by a conditional

jump instruction," independent claim 6 recites *"detecting an I/O read data sent by said*

microcontroller, wherein said I/O read data is followed immediately by a conditional jump

instruction," and independent claim 14 recites *"detecting an I/O read data sent by said device*

under test, wherein said I/O read data is followed immediately by a conditional jump

instruction."

        The language of claim 1 clearly conveys that the microcontroller sends I/O read data

followed by a conditional jump instruction to a virtual microcontroller. Claims 6 and 14 recite

substantially similar limitations. In contrast, Applicants' remarks state that the microcontroller

does not send a conditional jump instruction to the microcontroller. The claims fail to set forth

the subject matter which applicants regard as their invention.

                            Response to Arguments – 35 USC § 101

12.   The previous rejection of claims 1-20 under 35 U.S.C. § 101 is withdrawn in response to

the amendments to the claims.

Claim Interpretation – Potentially Allowable Subject Matter

13.   The subject matter of independent claim 1, 6, and 14 is interpreted as substantially

corresponding to the disclosure at pages 26-27 and FIG. 8. The Examiner has discussed the

invention with Applicants' representative Mr. Amir Tabarrok on 26-27 July 2007 it appears that

this interpretation is not improper. Although claims 1-20 are objected to and rejected under 35

U.S.C. § 112, first paragraph, the Examiner's understanding of the claimed subject matter,

assisted by the above mentioned conversations with Mr. Amir Tabarrok, is neither taught nor

suggested by the prior art.

The Examiner's interpretation of the inventive subject matter generally corresponds to

FIG. 8, comprising a microcontroller and virtual microcontroller operating in lockstep by

executing the same instructions using the same clock signal (specification, page 17, lines 1-9)

wherein:

the virtual microcontroller does not have access to I/O read information (from

actual I/O devices) but receives I/O read data from the microcontroller (specification,

page 26, lines 10-16);

the virtual microcontroller detects an I/O read instruction followed by a

conditional jump instruction that depends on a result of the I/O read instruction (FIG. 8,

612);

the virtual microcontroller computes a jump address of said conditional jump

instruction before receiving I/O read data corresponding to said I/O read instruction from

the microcontroller (FIG. 8, 624; specification, page 27, lines 18-24);

the virtual microcontroller receives said I/O read data from the microcontroller

(FIG. 8, 628);

the virtual microcontroller determines whether to follow the conditional jump

instruction based upon the received I/O read data and the conditional jump instruction

(FIG. 8, 632); and

the virtual microcontroller executes a next consecutive instruction following the

conditional jump instruction if the conditional jump is not followed or executes the

instruction at the jump address if the conditional jump is followed, at which point the

microcontroller and virtual microcontroller resume lockstep execution of the same

instructions using the same clock signal (FIG. 8, 636, 640, 644, 616).

This is not an endorsement of allowable claim language, but merely describes the

Examiner's interpretation of the disclosed subject matter and to facilitate agreement regarding

the scope and language of the claims. The prior art does not teach or suggest the Examiner's

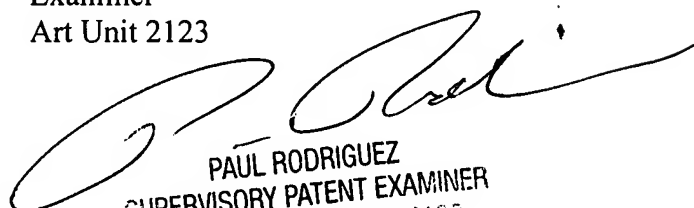understanding of the scope of invention.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Proctor whose telephone number is (571) 272-3713. The examiner can normally be reached on 8:30 am-4:30 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Rodriguez can be reached at (571) 272-3753. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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